Species of Concern
NOAA National Marine Fisheries Service

Largetooth sawfish
Pristis perotteti

Photo credit: Maria Luiza Delgado Assad, Fishbase.

KEY INFORMATION

Areas of Concern
Central and South America.

Year Identified as "Species of Concern"
1988 (removed in 1997, returned to list in 1999).

Factors for Decline
- Bycatch
- Fishing
- Habitat degradation

Conservation Designations
IUCN: Critically Endangered

Brief Species Description:
Sawfishes are generally a tropical marine and estuarine elasmobranch. All modern sawfishes appear in some respects to be more shark-like than ray-like, with only the trunk and especially the head ventrally flattened. The presence of a rostrum having laterally protruding teeth separates sawfishes from all other skates and rays (Figure 1). All sawfish snouts are extended as a long, narrow, flattened, rostral blade with a series of transverse teeth along either edge. The rostrum has a saw-like appearance and hence the name of sawfish. The largetooth sawfish and the smalltooth sawfish (*P. pectinata*) are similar in appearance. The two species can usually be differentiated by noting the number of teeth on one side of the rostrum. *P. perotteti* can have between 14 and 21 rostral teeth on one edge of the saw whereas *P. pectinata* usually has 23 to 34 (McEachran and Fechhelm 1998, Compagno and Last 1999).

These two species can also be distinguished by observing that in *P. perotteti* the first dorsal fin originates anterior to the pelvic fins while in *P. pectinata* the first dorsal fin originates along the same axis as the pelvic fins. The pectoral fins of *P. perotteti* are proportionally larger than those of *P. pectinata*. Furthermore, only *P. perotteti* has a distinct lower lobe on its caudal fin (McEachran and Fechhelm 1998, Compagno and Last 1999). Maximum size of *P. perotteti* has been reported between 20 and 21.3 feet (6.1-6.5 m) total length with weights between 1100 and 1300 pounds (500 to 600 kg) in weight (Thorson 1976). Studies of *Pristis perotteti* in Lake Nicaragua (Thorson 1976) report litter sizes of 1 to 13 individuals, with a mean of 7.3 individuals. The gestation period for *Pristis perotteti* is approximately 5 months, and females likely produce litters every second year.

Rationale for "Species of Concern" Listing:

Demographic and Genetic Diversity Concerns:

Simpfendorfer (2000), using age based demographic models, estimated the intrinsic rate of increase for *Pristis perotteti* was from 0.05 to 0.07 per yr, and population doubling times were 10.3 to 13.6 years. Musick et al. (2000) noted that intrinsic rates of increase less than ten percent (0.1) were low, and make a species particularly vulnerable to excessive mortalities and rapid population declines, after which recovery may take decades.

Pristis perotteti historically inhabited warm-temperate to tropical marine waters in the Atlantic and eastern Pacific Ocean, possibly in the eastern Mediterranean, and freshwater habitats in Central and

South America and Africa. Historical occurrences of largetooth sawfish in North America were much more limited than those of the related smalltooth sawfish and were strictly confined to shallow (< 33 feet or 10 m), near-shore, warm-temperate and tropical waters (>64-86 ^{o}F; 18-30^{o}C), estuarine localities, partly enclosed lagoons, and similar situations. T. Thorson noted large catches of *Pristis perotteti* during preliminary visits to Lake Nicaragua in 1963 (T.B. Thorson personal communication referenced in Cook et al., 2006). However, target fisheries removed an estimated 60,000 to 100,000 sawfishes between 1970 and 1975 (Thorson 1976), and sawfish are now extremely rare in freshwater lakes of Nicaragua.

In the United States, largetooth sawfish were reported mainly along the Texas coast and east into Florida waters, but now it is considered extirpated in the United States. The last confirmed largetooth sawfish reported in US waters was in 1941 in Florida and 1943 in Texas (Burgess and Curtis 2003).

Factors for Decline:

Incidental commercial catch was likely the most significant factor in the decline of sawfish populations in U.S. waters. Sawfish are extremely vulnerable to overexploitation due to their exceptional propensity for entanglement in net gear, their restricted habitat, and their low intrinsic rate of increase. Habitat degradation likely impacts the species given their inshore distribution.

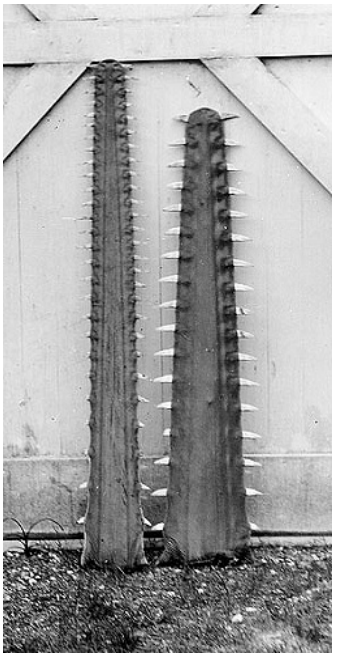

Figure 1. A comparison of smalltooth sawfish rostrum (left) and largetooth sawfish rostrum (right). Photo courtesy George Burgess, Florida Museum of Natural History.

Status Reviews/Research Underway:
In 2000, NMFS denied a petition to list the largetooth sawfish as threatened or endangered under the Endangered Species Act (65 FR 12959; March 10, 2000) because there was insufficient information presented in the petition and in NMFS files to indicate that a listing might be warranted.

Data Deficiencies:

Existing Protections and Conservation Actions:

References:

Burgess, G.H. and T.H. Curtis. 2003. Temporal reductions in the distribution and abundance of U.S. Atlantic sawfishes (*Pristis* spp.). Abstract: American Society of Ichthyologist and Herpetologists/American Elasmobranch Society Annual Meeting. Manaus, Brazil.

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Thorson, T.B. 1982. Life history implications of a tagging study of the largetooth sawfish *Pristis perotteti* in the lake Nicaragua- Rio San Juan System. Environmental Biology of Fishes 7:207-228.

Point(s) of contact for questions or further information:

For further information on this Species of Concern, or on the Species of Concern Program in general, please contact NMFS, Office of Protected Resources, 1315 East West Highway, Silver Spring, MD 20910, (301) 713-1401, soc.list@noaa.gov; http://www.nmfs.noaa.gov/pr/species/concern/, or Shelley Norton, NMFS, Southeast Region, Protected Resources Division, 9721 Executive Center Drive N., St. Petersburg, FL 33702, (727)570-5312, Shelley.Norton@noaa.gov.